

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/586, 072A
Source: ILFWO
Date Processed by STIC: 11/09/2006

ENTERED



IFWO

RAW SEQUENCE LISTING

DATE: 11/09/2006

PATENT APPLICATION: US/10/586,072A

TIME: 09:00:52

Input Set : A:\253625.ST25.txt

Output Set: N:\CRF4\11092006\J586072A.raw

3 <110> APPLICANT: BROUGH, DOUGLAS E.
 5 <120> TITLE OF INVENTION: METHODS OF GENE THERAPY FOR TREATING DISORDERS OF THE EAR BY
 6 ADMINISTERING A VECTOR ENCODING AN ATONAL-ASSOCIATED FACTOR
 8 <130> FILE REFERENCE: 253625
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/586,072A
 C--> 10 <141> CURRENT FILING DATE: 2006-07-14
 10 <150> PRIOR APPLICATION NUMBER: PCT/US04/04891
 11 <151> PRIOR FILING DATE: 2004-02-19
 13 <150> PRIOR APPLICATION NUMBER: US 10/373,249
 14 <151> PRIOR FILING DATE: 2003-02-24
 W--> 15 <160> NUMBER OF SEQ ID: 7
 17 <170> SOFTWARE: PatentIn version 3.3
 19 <210> SEQ ID NO: 1
 20 <211> LENGTH: 351
 21 <212> TYPE: PRT
 22 <213> ORGANISM: Mus musculus
 24 <400> SEQUENCE: 1
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 30 Gly Asp His His Arg His Pro Gln Pro His His Val Pro Pro Leu Thr
 31 20 25 30
 34 Pro Gln Pro Pro Ala Thr Leu Gln Ala Arg Asp Leu Pro Val Tyr Pro
 35 35 40 45
 38 Ala Glu Leu Ser Leu Leu Asp Ser Thr Asp Pro Arg Ala Trp Leu Thr
 39 50 55 60
 42 Pro Thr Leu Gln Gly Leu Cys Thr Ala Arg Ala Ala Gln Tyr Leu Leu
 43 65 70 75 80
 46 His Ser Pro Glu Leu Gly Ala Ser Glu Ala Ala Ala Pro Arg Asp Glu
 47 85 90 95
 50 Ala Asp Ser Gln Gly Glu Leu Val Arg Arg Ser Gly Cys Gly Gly Leu
 51 100 105 110
 54 Ser Lys Ser Pro Gly Pro Val Lys Val Arg Glu Gln Leu Cys Lys Leu
 55 115 120 125
 58 Lys Gly Gly Val Val Val Asp Glu Leu Gly Cys Ser Arg Gln Arg Ala
 59 130 135 140
 62 Pro Ser Ser Lys Gln Val Asn Gly Val Gln Lys Gln Arg Arg Leu Ala
 63 145 150 155 160
 66 Ala Asn Ala Arg Glu Arg Arg Arg Met His Gly Leu Asn His Ala Phe
 67 165 170 175
 70 Asp Gln Leu Arg Asn Val Ile Pro Ser Phe Asn Asn Asp Lys Lys Leu
 71 180 185 190
 74 Ser Lys Tyr Glu Thr Leu Gln Met Ala Gln Ile Tyr Ile Asn Ala Leu
 75 195 200 205

(pg-6)

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79      210                      215                      220
82 Thr Ala Ser Cys Lys Asn Asp His His His Leu Arg Thr Ala Ser Ser
83 225                      230                      235                      240
86 Tyr Glu Gly Gly Ala Gly Ala Ser Ala Val Ala Gly Ala Gln Pro Ala
87      245                      250                      255
90 Pro Gly Gly Gly Pro Arg Pro Thr Pro Pro Gly Pro Cys Arg Thr Arg
91      260                      265                      270
94 Phe Ser Gly Pro Ala Ser Ser Gly Gly Tyr Ser Val Gln Leu Asp Ala
95      275                      280                      285
98 Leu His Phe Pro Ala Phe Glu Asp Arg Ala Leu Thr Ala Met Met Ala
99      290                      295                      300
102 Gln Lys Asp Leu Ser Pro Ser Leu Pro Gly Gly Ile Leu Gln Pro Val
103 305                      310                      315                      320
106 Gln Glu Asp Asn Ser Lys Thr Ser Pro Arg Ser His Arg Ser Asp Gly
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115 <211> LENGTH: 351
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117 <213> ORGANISM: Mus musculus
119 <400> SEQUENCE: 2
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129 Pro Gln Pro Pro Ala Thr Leu Gln Ala Arg Asp Leu Pro Val Tyr Pro
130      35      40      45
133 Ala Glu Leu Ser Leu Leu Asp Ser Thr Asp Pro Arg Ala Trp Leu Thr
134      50      55      60
137 Pro Thr Leu Gln Gly Leu Cys Thr Ala Arg Ala Ala Gln Tyr Leu Leu
138 65      70      75      80
141 His Ser Pro Glu Leu Gly Ala Ser Glu Ala Ala Ala Pro Arg Asp Glu
142      85      90      95
145 Ala Asp Ser Gln Gly Glu Leu Val Arg Arg Ser Gly Cys Gly Gly Leu
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149 Ser Lys Ser Pro Gly Pro Val Lys Val Arg Glu Gln Leu Cys Lys Leu
150      115     120     125
153 Lys Gly Gly Val Val Val Asp Glu Leu Gly Cys Ser Arg Gln Arg Ala
154      130     135     140
157 Pro Ser Ser Lys Gln Val Asn Gly Val Gln Lys Gln Arg Arg Leu Ala
158 145     150     155     160
161 Ala Asn Ala Arg Glu Arg Arg Arg Met His Gly Leu Asn His Ala Phe
162      165     170     175
165 Asp Gln Leu Arg Asn Val Ile Pro Ser Phe Asn Asn Asp Lys Lys Leu
166      180     185     190
169 Ser Lys Tyr Glu Thr Leu Gln Met Ala Gln Ile Tyr Ile Asn Ala Leu
170      195     200     205

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Input Set : A:\253625.ST25.txt

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173 Ser Glu Leu Leu Gln Thr Pro Asn Val Gly Glu Gln Pro Pro Pro Pro
174      210      215      220
177 Thr Ala Ser Cys Lys Asn Asp His His His Leu Arg Thr Ala Ser Ser
178 225      230      235      240
181 Tyr Glu Gly Gly Ala Gly Ala Ser Ala Val Ala Gly Ala Gln Pro Ala
182      245      250      255
185 Pro Gly Gly Gly Pro Arg Pro Thr Pro Gly Pro Cys Arg Thr Arg
186      260      265      270
189 Phe Ser Gly Pro Ala Ser Ser Gly Tyr Ser Val Gln Leu Asp Ala
190      275      280      285
193 Leu His Phe Pro Ala Phe Glu Asp Arg Ala Leu Thr Ala Met Met Ala
194      290      295      300
197 Gln Lys Asp Leu Ser Pro Ser Leu Pro Gly Gly Ile Leu Gln Pro Val
198 305      310      315      320
201 Gln Glu Asp Asn Ser Lys Thr Ser Pro Arg Ser His Arg Ser Asp Gly
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210 <211> LENGTH: 354
211 <212> TYPE: PRT
212 <213> ORGANISM: Homo sapiens
214 <400> SEQUENCE: 3
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220 Gly Asp His His Arg Gln Pro Gln Pro His His Leu Pro Gln Pro Pro
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224 Pro Pro Pro Gln Pro Pro Ala Thr Leu Gln Ala Arg Glu His Pro Val
225      35      40      45
228 Tyr Pro Pro Glu Leu Ser Leu Leu Asp Ser Thr Asp Pro Arg Ala Trp
229      50      55      60
232 Leu Ala Pro Thr Leu Gln Gly Ile Cys Thr Ala Arg Ala Ala Gln Tyr
233 65      70      75      80
236 Leu Leu His Ser Pro Glu Leu Gly Ala Ser Glu Ala Ala Ala Pro Arg
237      85      90      95
240 Asp Glu Val Asp Gly Arg Gly Glu Leu Val Arg Arg Ser Ser Gly Gly
241      100      105      110
244 Ala Ser Ser Ser Lys Ser Pro Gly Pro Val Lys Val Arg Glu Gln Leu
245      115      120      125
248 Cys Lys Leu Lys Gly Gly Val Val Val Asp Glu Leu Gly Cys Ser Arg
249      130      135      140
252 Gln Arg Ala Pro Ser Ser Lys Gln Val Asn Gly Val Gln Lys Gln Arg
253 145      150      155      160
256 Arg Leu Ala Ala Asn Ala Arg Glu Arg Arg Arg Met His Gly Leu Asn
257      165      170      175
260 His Ala Phe Asp Gln Leu Arg Asn Val Ile Pro Ser Phe Asn Asn Asp
261      180      185      190
264 Lys Lys Leu Ser Lys Tyr Glu Thr Leu Gln Met Ala Gln Ile Tyr Ile
265      195      200      205

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Input Set : A:\253625.ST25.txt

Output Set: N:\CRF4\11092006\J586072A.raw

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268 Asn Ala Leu Ser Glu Leu Leu Gln Thr Pro Ser Gly Gly Glu Gln Pro
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272 Pro Pro Pro Pro Ala Ser Cys Lys Ser Asp His His His Leu Arg Thr
273 225                      230                      235                      240
276 Ala Ala Ser Tyr Glu Gly Gly Ala Gly Asn Ala Thr Ala Ala Gly Ala
277                      245                      250                      255
280 Gln Gln Ala Ser Gly Gly Ser Gln Arg Pro Thr Pro Pro Gly Ser Cys
281                      260                      265                      270
284 Arg Thr Arg Phe Ser Ala Pro Ala Ser Ala Gly Gly Tyr Ser Val Gln
285                      275                      280                      285
288 Leu Asp Ala Leu His Phe Ser Thr Phe Glu Asp Ser Ala Leu Thr Ala
289                      290                      295                      300
292 Met Met Ala Gln Lys Asn Leu Ser Pro Ser Leu Pro Gly Ser Ile Leu
293 305                      310                      315                      320
296 Gln Pro Val Gln Glu Glu Asn Ser Lys Thr Ser Pro Arg Ser His Arg
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309 <211> LENGTH: 354
310 <212> TYPE: PRT
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319 Gly Asp His His Arg Gln Pro Gln Pro His His Leu Pro Gln Pro Pro
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323 Pro Pro Pro Gln Pro Pro Ala Thr Leu Gln Ala Arg Glu His Pro Val
324                      35                      40                      45
327 Tyr Pro Pro Glu Leu Ser Leu Leu Asp Ser Thr Asp Pro Arg Ala Trp
328 50                      55                      60
331 Leu Ala Pro Thr Leu Gln Gly Ile Cys Thr Ala Arg Ala Ala Gln Tyr
332 65                      70                      75                      80
335 Leu Leu His Ser Pro Glu Leu Gly Ala Ser Glu Ala Ala Ala Pro Arg
336                      85                      90                      95
339 Asp Glu Val Asp Gly Arg Gly Glu Leu Val Arg Arg Ser Ser Gly Gly
340                      100                     105                     110
343 Ala Ser Ser Ser Lys Ser Pro Gly Pro Val Lys Val Arg Glu Gln Leu
344                      115                     120                     125
347 Cys Lys Leu Lys Gly Gly Val Val Val Asp Glu Leu Gly Cys Ser Arg
348 130                     135                     140
351 Gln Arg Ala Pro Ser Ser Lys Gln Val Asn Gly Val Gln Lys Gln Arg
352 145                     150                     155                     160
355 Arg Leu Ala Ala Asn Ala Arg Glu Arg Arg Arg Met His Gly Leu Asn
356                      165                      170                      175
359 His Ala Phe Asp Gln Leu Arg Asn Val Ile Pro Ser Phe Asn Asn Asp
360                      180                      185                      190
363 Lys Lys Leu Ser Lys Tyr Glu Thr Leu Gln Met Ala Gln Ile Tyr Ile

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Input Set : A:\253625.ST25.txt

Output Set: N:\CRF4\11092006\J586072A.raw

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364      195      200      205
367 Asn Ala Leu Ser Glu Leu Leu Gln Thr Pro Ser Gly Gly Glu Gln Pro
368      210      215      220
371 Pro Pro Pro Pro Ala Ser Cys Lys Ser Asp His His His Leu Arg Thr
372 225      230      235      240
375 Ala Ala Ser Tyr Glu Gly Gly Ala Gly Asn Ala Thr Ala Ala Gly Ala
376      245      250      255
379 Gln Gln Ala Ser Gly Gly Ser Gln Arg Pro Thr Pro Pro Gly Ser Cys
380      260      265      270
383 Arg Thr Arg Phe Ser Ala Pro Ala Ser Ala Gly Gly Tyr Ser Val Gln
384      275      280      285
387 Leu Asp Ala Leu His Phe Ser Thr Phe Glu Asp Ser Ala Leu Thr Ala
388      290      295      300
391 Met Met Ala Gln Lys Asn Leu Ser Pro Ser Leu Pro Gly Ser Ile Leu
392 305      310      315      320
395 Gln Pro Val Gln Glu Glu Asn Ser Lys Thr Ser Pro Arg Ser His Arg
396      325      330      335
399 Ser Asp Gly Glu Phe Ser Pro His Ser His Tyr Ser Asp Ser Asp Glu
400      340      345      350
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409 <212> TYPE: PRT

410 <213> ORGANISM: Drosophila

412 <400> SEQUENCE: 5

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419 20

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424 <212> TYPE: DNA

425 <213> ORGANISM: Mus musculus

427 <400> SEQUENCE: 6

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432 ggggcttata cccttcggtg aactgggttg ccagcacctc ctctaacacg gcacctccga 180
434 gccattgcag tgcgatgtcc cgctgtctgc atgcagaaga gtgggctgag gtaaaagagt 240
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438 ctgctaccct gcaggcgaga gaccttccc tctaccggc agaactgtcc ctcttgata 360
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442 cccagtatat gctgcattct cccgagctgg gtgcctccga ggcgcggcg ccccgggacg 480
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446 cggggcccgt caaagtagcg gaacagctgt gcaagctgaa ggggtggggt gtagtggacg 600
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450 aaaggaggct ggcagcaaac gcaagggaac ggcgcaggat gcacgggctg aaccacgcct 720
452 tcgaccagct gcgcaacgtt atcccgctct tcaacaacga caagaagctg tccaaatatg 780
454 agaccctaca gatggcccag atctacatca acgctctgtc ggagttgctg cagactccca 840
456 atgtcggaga gcaaccgccg ccgcccacag cttcttgcaa aaatgaccac catcaccttc 900

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/586,072A

DATE: 11/09/2006
TIME: 09:00:53

Input Set : A:\253625.ST25.txt
Output Set: N:\CRF4\11092006\J586072A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; N Pos. 1497,1504,1526,1564

VERIFICATION SUMMARY

DATE: 11/09/2006

PATENT APPLICATION: US/10/586,072A

TIME: 09:00:53

Input Set : A:\253625.ST25.txt

Output Set: N:\CRF4\11092006\J586072A.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:15 M:283 W: Missing Blank Line separator, <160> field identifier
L:552 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:1440
M:341 Repeated in SeqNo=7

STATISTICS SUMMARY

PATENT APPLICATION: US/10/586,072A

DATE: 11/09/2006

TIME: 09:00:53

Input Set : A:\253625.ST25.txt

Output Set: N:\CRF4\11092006\J586072A.raw

Application Serial Number: US/10/586,072A

Alpha or Numeric or Xml: Numeric

Application Class:

Application File Date: 07-14-2006

Art Unit: IFWO

Software Application: PatentIN3.3

Total Number of Sequences: 7

Total Nucleotides: 2965

Total Amino Acids: 1431

Number of Errors: 0

Number of Warnings: 4

Number of Corrections: 2

MESSAGE SUMMARY

270 C: 1 (Current Application Number differs)

271 C: 1 (Current Filing Date differs)

283 W: 1 (Missing Blank Line separator)

341 W: 3 ((46) "n" or "Xaa" used)